

CUSTOMER NO.: 24498
Serial No. 09/826,972
Office Action dated: June 27, 2005
Response dated: August 30, 2005

PATENT
PD000010

REMARKS/ARGUMENTS

Claims , 5, 8-10, 12, and 15-28 remain pending in this application with claims 1, 5, 9, 10, 12, and 16 being amended, claims 2, 3, 4, 6, 7, 11, 13, and 14 being cancelled, and claims 17-28 being added by this response. Support for the claim amendments can be found throughout the specification and specifically on page 4, line 3 through page 6, line 1. Amended claim 1 includes the features of original claims 1-4.

Rejection of Claims 1-16 under 35 U.S.C. 102(a)

Claims 1-16 are rejected under 35 U.S.C. 102(a) as being anticipated by Lane (U.S. Patent No. 6,031,960).

The present invention recites a method and apparatus for recording data packets of an MPEG2 transport stream on a storage medium. The MPEG2 transport stream data packets to be recorded belong to at least one specific program. The MPEG2 transport stream originally includes data packets for a set of programs, and the original time stamps are assigned to data packets of the transport stream. A time stamp is assigned to each recording data packet. MPEG2 transport packets for at least one specific program are selected out of the MPEG2 transport stream, and sector packs each including multiple transport packets of at least one specific program together with their packet headers are assembled for subsequent storage. Using software implementation processing, original timestamps from the MPEG2 transport stream related to some of the transport packets in the sector packs to be recorded are captured. Timestamps for the other transport packets in the sector packs to be recorded are calculated using the captured original MPEG2 transport stream timestamps such that to each of these other transport packets in a sector pack., a calculated timestamp is assigned and replaces the corresponding original time stamp, and thereby the sequence of calculated timestamps is interspersed with original timestamps. The sector packs are then recorded together with the calculated and interspersed original timestamps. Independent claims 1 and 18 both contain the limitations similar to those discussed above. Independent claims 10

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and 24 are directed to a method and apparatus for playback and contain limitations similar to those discussed above.

Lane describes a method and apparatus for ensuring that a stream of data used for fast forward or reverse playback operation (trick play data stream) complies with preselected data standards and in particular the MPEG-2 standard. Lane generates new PCR, PTS and DTS values as a function of the trick play speed at which the data is intended to be read back. Lane further reads PCR, PTS and DTS values from a tape during trick playback. New PCRs, PTSs and DTSs are generated to provide an MPEG-2 compliant bitstream. Lane, however, neither discloses nor suggests using "capturing original timestamps from said MPEG2 transport stream related to some of said transport packets in said sector packs to be recorded, and calculating using said captured original MPEG2 transport stream timestamps, timestamps for the other transport packets in said sector packs to be recorded such that to each of these other transport packets in a sector pack a calculated timestamp is assigned which replaces the corresponding original time stamp, and thereby the sequence of calculated timestamps is interspersed with original timestamps" as in the present claimed invention. In fact, Lane performs trick play with a desired speed of data packets which are constructed for replay with a different speed. The decoder, however, will normally replay with a speed according to the inserted time stamps. If the replay speed is changed but the corresponding time stamps are not, this would cause a buffer underflow (or overflow) problem. Column 4, lines 55-63, of Lane states that the bitstream corrector circuit "operates in accordance with the present invention to modify PCR, PTS and/or DTS signals already existing in the bitstream, or to generate new PCR, PTS and/or DTS signals to insure that the bitstream output by the bitstream corrector includes PCT, PTS, and/or DTS values that are in compliance with MPEG-2 for the specific mode of VTR operation as indicated by a user command supplied to the bitstream corrector circuit." Additionally, Lane states that "the bitstream corrector circuit of the present invention uses one or more of a plurality of different methods of addressing the potential decoder buffer underflow problem" by "adjusting or generation of PTS and, optionally, DTS values to insure that a decoder receiving data in an underflow situation will not attempt

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to decode the data until all the fame data is received” in column 6, lines 1-8. In column 7, lines 49-55, Lane states that “Because the trick play data received by the bitstream corrector circuit was not encoded at the rate at which it will be decoded, e.g., it was encoded for normal play operation and will be decoded during fast forward playback operation, new PCR values have to be generated and included in the trick play data stream to achieve MPEG-2 compliance.” Furthermore, Lane, in column 10, lines 32-39, states “When trick play data is read back and played at the speed of which it was encoded, the clock reference (PCR) and time stamps (DTS, PTS) should be correct for decoding. In such a case, the VTR needs to simply send the trick play data read back from the tape to a decoder without modification by the bitstream corrector circuit. However, if the trick play speed is other than that for which the data was encoded, then the clock reference values and time stamps will be wrong.”

The present claimed invention replaces the original time stamps by calculated time stamps the values of which correspond to the values of the corresponding replaced original time stamps. The reason is not to change time stamp values, but to reduce the computational load for capturing original time stamps from the transport stream. It requires less computational power to capture only part of the original time stamps from the transport stream and to calculate the thereby missing original time stamps. Capturing time stamps is replaced by calculating time stamps. Support for the above argument can be found throughout the specification and specifically on page 1, lines 29-34 and page 2, lines 7-12. Thus Lane neither discloses nor suggests using “capturing original timestamps from said MPEG2 transport stream related to some of said transport packets in said sector packs to be recorded, and calculating using said captured original MPEG2 transport stream timestamps, timestamps for the other transport packets in said sector packs to be recorded such that to each of these other transport packets in a sector pack a calculated timestamp is assigned which replaces the corresponding original time stamp, and thereby the sequence of calculated timestamps is interspersed with original timestamps” as in the present claimed invention.

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As claims 1, 10, 18, and 24 all contain similar limitations, it is respectfully submitted that these claims are allowable for the reasons as discussed above. Furthermore, as claims 2-5, 7-10, 12-15 and 17-20 are dependent on claims 1, 6, 11 and 16, respectively, it is further respectfully submitted that claims 2-5, 7-10, 12-15 and 17-20 are allowable for the same reasons as discussed above.

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in the cited prior art showing the above discussed features. It is thus further respectfully submitted that claims 1-20 are not anticipated by the cited prior art. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Please charge the fee of two-hundred dollars (\$200) for one (1) independent claim in excess of three to Deposit Account 07-0832. No additional fee is believed due. However, if an additional fee is due, please charge the additional fee to Deposit Account 07-0832.

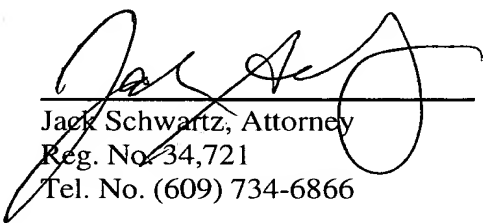
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